

Magnetic Stand

A magnetic stand (**Figure 52**) is used to securely hold a dial indicator when checking the runout of a round object or when checking the end play of a shaft.

V-Blocks

V-blocks (**Figure 53**) are precision ground blocks used to hold a round object when checking its runout or condition. In motorcycle repair, V-blocks can be used when checking the runout of such items as valve stems, camshaft, balancer shaft, crankshaft, wheel axles and fork tubes.

SPECIAL TOOLS

A few special tools may be required for major service. These are described in the appropriate chapters and are available either from a Honda dealer or other manufacturers as indicated.

This section describes special tools unique to this type of vehicle's service and repair.

The Grabbitt

The Grabbitt (**Figure 54**) is a special tool used to hold the clutch boss when removing the clutch nut and to secure the drive sprocket when removing the sprocket nut.

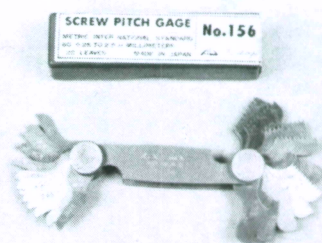
Alternator Rotor Puller

A rotor puller will be required whenever it is necessary to remove the rotor. In addition, when disassembling the engine, the rotor must be removed before the crankcases can be split. There is no satisfactory substitute for this tool. Because the rotor is a taper fit on the crankshaft, makeshift removal often results in crankshaft and rotor damage. Don't think about removing the rotor without this tool.

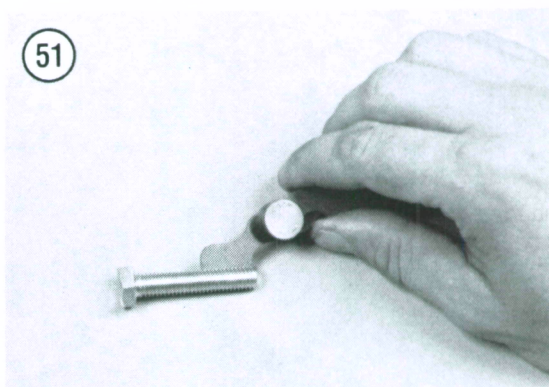
Rear Axle Nut Wrenches

The large 41 mm rear axle nuts require special tools for their removal and installation. These tools are available from a Honda dealer.

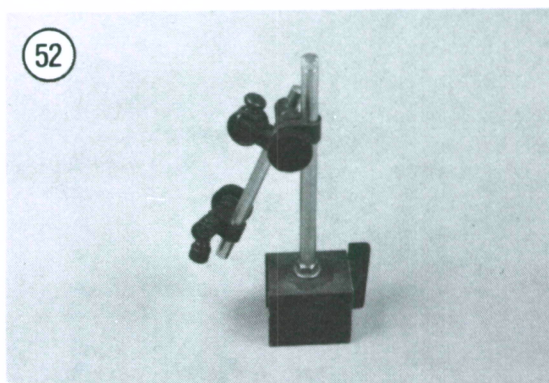
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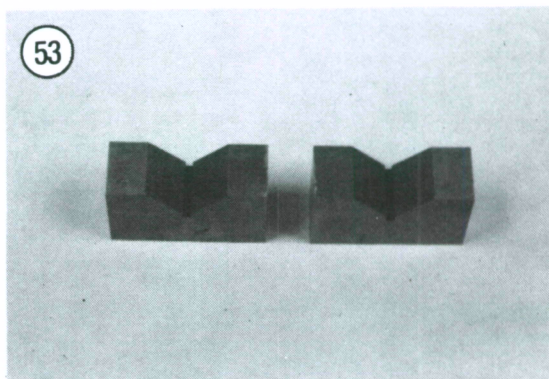
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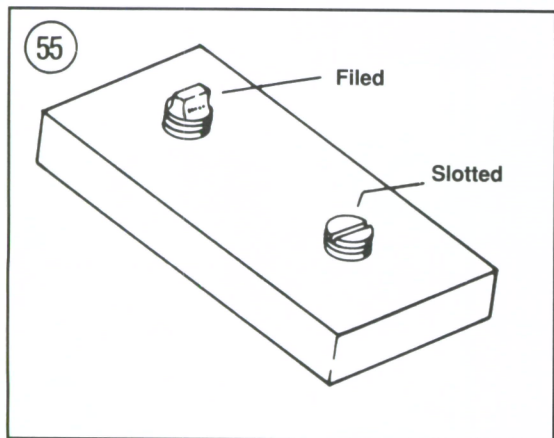
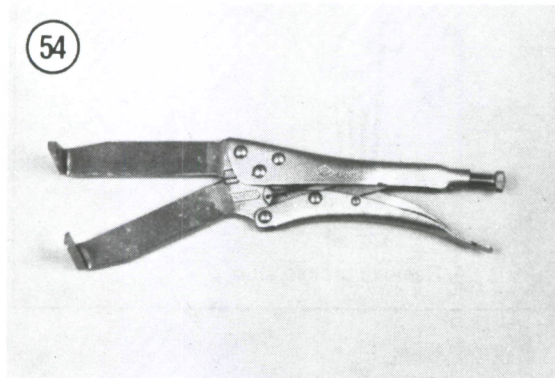
MECHANIC'S TIPS

Removing Frozen Nuts and Screws

When a fastener rusts and cannot be removed, several methods may be used to loosen it. First, apply penetrating oil such as Liquid Wrench or WD-40 (available at hardware or auto supply stores). Apply it liberally and let it penetrate for 10-15 minutes. Rap the fastener several times with a small hammer; do not hit it hard enough to cause damage. Reapply the penetrating oil if necessary.

For frozen screws, apply penetrating oil as described, then insert a screwdriver in the slot and rap the top of the screwdriver with a hammer. This loosens the rust so the screw can be removed in the normal way. If the screw head is too chewed up to use this method, grip the head with Vise-grip pliers and twist the screw out.

Avoid applying heat unless specifically instructed, as it may melt, warp or remove the temper from parts.



Removing Broken Screws or Bolts

When the head breaks off a screw or bolt, several methods are available for removing the remaining portion.

If a large portion of the remainder projects out, try gripping it with Vise-grip pliers. If the projecting portion is too small, file it to fit a wrench or cut a slot in it to fit a screwdriver. See **Figure 55**.

If the head breaks off flush, use a screw extractor. To do this, centerpunch the exact center of the remaining portion of the screw or bolt. Drill a small hole in the screw and tap the extractor into the hole. Back the screw out with a wrench on the extractor. See **Figure 56**.

Remedying Stripped Threads

Occasionally, threads are stripped through carelessness or impact damage. Often the threads can be cleaned up by running a tap (for internal threads on nuts) or die (for external threads on bolts) through the threads. See **Figure 57**. To clean or repair spark plug threads, a spark plug tap can be used (**Figure 58**).

NOTE

*Tap and dies can be purchased individually or in a set as shown in **Figure 59**.*

If an internal thread is damaged, it may be necessary to install a Helicoil (**Figure 60**) or some other type of thread insert. Follow the manufacturer's instructions when installing their insert.

RIDING SAFETY

General Tips

1. Read your owner's manual and know your machine.
2. Check the throttle and brake controls before starting the engine.
3. Know how to make an emergency stop.
4. Never add fuel while anyone is smoking in the area or when the engine is running.
5. Never wear loose scarves, belts or boot laces that could catch on moving parts.
6. Always wear eye and head protection and protective clothing to protect your entire body (**Figure 61**).

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